

2. [A substantially pure or isolated protein comprising a segment exhibiting sequence identity to a corresponding portion of a 499E9] The polypeptide of Claim 1, wherein [:

- 5 a) said homology is at least about 90% identity and said portion is at least about 9 amino acids;
- b) said homology is at least about 80% identity and said portion is] said recombinant 499E9 polypeptide has 100% identity over at least [about] 17 contiguous amino acids[; or
- 10 c) said homology is at least about 70% identity and said portion is at least about 25 amino acids].

3. The [composition of matter] polypeptide of Claim 1, wherein said [:

- 15 a) 499E9 comprises a mature sequence of Table 1; or
- b) protein or peptide:
- i)] polypeptide is from a [warm blooded animal selected from a] mammal [, including a rodent;
- 20 ii) comprises at least one polypeptide segment of SEQ ID NO: 2;
- iii) exhibits a plurality of portions exhibiting said identity;
- iv) is a natural allelic variant of 499E9;
- v) has a length at least about 30 amino acids;
- 25 vi) exhibits at least two non-overlapping epitopes which are specific for a mammalian 499E9;
- vii) exhibits a sequence identity at least about 90% over a length of at least about 20 amino acids to a rodent 499E9;
- 30 viii) exhibits at least two non-overlapping epitopes which are specific for a rodent 499E9;
- ix) exhibits a sequence identity at least about 90% over a length of at least about 20 amino acids to a rodent 499E9;
- 35 x) is glycosylated;
- xi) is a synthetic polypeptide;
- xii) is attached to a solid substrate;

- xiii) is conjugated to another chemical moiety;
xiv) is a 5-fold or less substitution from natural sequence; or
xv) is a deletion or insertion variant from a natural sequence].

4. A sterile composition comprising [:

- a) a sterile 499E9 protein or peptide] said polypeptide of Claim 1 [; or
b) said 499E9 protein or peptide of Claim 1 and a carrier, wherein said carrier is:
i) an aqueous compound, including water, saline, and/or buffer; and/or
ii) formulated for oral, rectal, nasal, topical, or parenteral administration].

5. The polypeptide of Claim 1, wherein said fusion protein of Claim 1, comprising:

- a)] comprises mature protein [comprising] sequence of Table 1 (see SEQ ID NO: 2) [;] and:
[b)] a) a detection or purification tag, *selected from the group consisting of* including a FLAG, His6, or Ig sequence; or
[c)] b) sequence of another [TNF] tumor necrosis factor ligand protein.

6. A kit comprising a [protein or polypeptide of Claim 1, and:

- a) a) compartment comprising said [protein or] polypeptide of Claim 1 [; and/or
b)] and instructions for use or disposal of reagents in said kit.

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~~11.~~ 7. An isolated or recombinant nucleic acid encoding [a protein or peptide or fusion protein] said polypeptide of Claim 1, wherein [;

a)] said 499E9 [protein] polypeptide is from a mammal [;

including a rodent; or

b) said nucleic acid:

i) encodes an antigenic peptide sequence of Table 1;

ii) encodes a plurality of antigenic peptide sequences of Table 1;

iii) exhibits at least about 80% identity to a natural cDNA encoding said segment;

iv) is an expression vector;

v) further comprises an origin of replication;

vi) is from a natural source;

vii) comprises a detectable label;

viii) comprises synthetic nucleotide sequence;

ix) is less than 6 kb, preferably less than 3 kb;

x) is from a mammal, including a rodent;

xi) comprises a natural full length coding sequence;

xii) is a hybridization probe for a gene encoding said TNF-ligand family protein; or

xiii) is a PCR primer, PCR product, or mutagenesis primer].

~~12.~~ 8. A cell [or tissue] comprising [a] said recombinant nucleic acid of Claim 1.

~~14.~~ 10. A kit comprising [said nucleic acid of Claim 1], and:

a)] a compartment comprising said nucleic acid of Claim 1 [;

b) a compartment further comprising a 499E9 protein or polypeptide; and/or

c)] and instructions for use or disposal of reagents in said kit.

11 15. A nucleic acid which [:

a)] selectively hybridizes under wash conditions of [30] at least 45° C and less than [2M] 500 mM salt to SEQ ID NO: 1[; or

5 b) exhibits at least about 85% identity over a stretch of at least about 30 nucleotides to a rodent 499E9].

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16. The nucleic acid of Claim 15, wherein:

a) said wash conditions are at [45] least 55° C [and/or 500] and less than 150 mM salt; or

b) said [identity is at least 90% and/or said stretch is] nucleic acid comprises at least [55] 30 contiguous nucleotides of the coding portion of SEQ ID NO: 1.

15 Please add new Claims 21-46 as follows:

13 --21. The polypeptide of Claim 1, which comprises the natural sequence 499E9 of SEQ ID NO: 2.

20 14 22. The polypeptide of Claim 2, wherein said 100% identity of the recombinant 499E9 polypeptide is over at least 25 contiguous amino acids.

25 15 23. The polypeptide of Claim 2, wherein said 100% identity of the recombinant 499E9 polypeptide is over at least 30 contiguous amino acids.

16 24. The polypeptide of Claim 1, wherein said substantially pure 499E9 polypeptide has a length of at least 30 amino acids.

30 17 25. The polypeptide of Claim 1, which is:

- a) glycosylated;
b) a synthetic polypeptide;
c) attached to a solid substrate; or
35 d) conjugated to another chemical entity.
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- 18 26. A composition comprising said polypeptide of Claim 1 and an aqueous carrier.
- 19 27. The composition of Claim ¹⁸26, formulated for oral, 5 rectal, nasal, topical, or parenteral administration.
- 20 28. The isolated or recombinant nucleic acid of Claim ⁷11, which comprises at least 22 contiguous nucleotides of the coding portion of SEQ ID NO: 1.
- 10 29. An isolated or recombinant nucleic acid which encodes said polypeptide of Claim 1, wherein said polypeptide is an antigenic peptide of Table 1 (see SEQ ID NO: 2).
- 15 30. The isolated or recombinant nucleic acid of Claim ²¹28, which comprises at least 29 contiguous nucleotides of the coding portion of SEQ ID NO: 1.
- 24 31. An isolated or recombinant nucleic acid encoding a 20 polypeptide of Claim 1, which exhibits 100% identity over the protein coding portion of a natural DNA encoding said 499E9 polypeptide.
- 25 32. A vector which encodes said polypeptide of Claim 1 and comprises at least 35 contiguous nucleotides of the coding portion of SEQ ID NO: 1 and:
- a) transcriptional regulatory sequences operably linked to said 499E9 coding sequence; or
 - b) an origin of replication.
- 30 33. The vector of Claim ²⁴32, comprising at least 41 contiguous nucleotides from the coding portion of SEQ ID NO: 1.

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- 26 34. An isolated or recombinant nucleic acid encoding said polypeptide of Claim 1, wherein said nucleic acid:
- a) is from a natural source;
 - b) comprises a detectable label;
 - 5 c) comprises synthetic nucleotide sequence; or
 - d) comprises natural full length coding sequence.
- 27 35. An isolated or recombinant nucleic encoding said polypeptide of Claim 1, which is a hybridization probe for a gene
- 10 encoding a tumor necrosis factor ligand family protein.
- 28 36. A cell comprising said nucleic acid of Claim 29.
- 29 37. A cell comprising said nucleic acid of Claim 31.
- 15 30 38. A cell comprising said vector of Claim 32.
- 31 39. A cell comprising said nucleic acid of Claim 34.
- 20 40. A kit comprising a compartment comprising a nucleic acid of Claim 34 and instructions for use or disposal of reagents in said kit.
41. A kit comprising a compartment comprising said nucleic acid of Claim 35 and instructions for use or disposal of reagents in said kit.
42. A method of making a protein, comprising culturing said cell of Claim 32 in an environment resulting in expressing said
- 30 protein and recovering said protein.
43. A method of making a protein, comprising culturing said cell of Claim 36 in an environment resulting in expressing said protein and recovering said protein.

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